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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/986,958 | 11/13/2001 | Shinichi Shima | 862.C2434 | 6387 |

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

NGUYEN, HUNG

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AA

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/986,958 | SHIMA, SHINICHI | |
| | Examiner | Art Unit | |
| | Hung Henry V Nguyen | 2851 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed 4/24/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) because the amendments filed April 24, 2003 have 28 pages of amendments to the specification.

A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and must be accompanied by: 1) a statement that the substitute specification contains no new matter; and 2) a marked-up copy showing the amendments to be made via the substitute specification relative to the specification at the time the substitute specification is filed.

Abstract

2. The abstract is objected to because it does not reflect the invention as recited in new claims. Correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 58-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al (U.S.Pat. 6,414,743) in view of Miyaji et al (U.S.Pat. 5,559,584).

With respect to claims 58-59, Nishi discloses an exposure apparatus comprising an illumination optical system (503-511) for illuminating a reticle (R) with illumination light from an excimer laser light source (502); a projection optical system (PL) for projecting a predetermined pattern formed on the mask onto a substrate (W); a position detecting system (528) for detecting an alignment mark on the substrate (see col.61, lines 34-36); a mask position detection system (519) for positioning the mask; wherein exposure region on the substrate (516) is formed "at the position offset toward the side of the alignment sensor (528) from the projection center of the projection optical system" (see fig.29).

As to claims 60-62, Nishi further disclose that the projection optical system can be catadioptric optical system/reflection-refraction optical system (see fig.30 for example) and the exposure apparatus is a scanning type exposure apparatus (see claim 19 of Nishi). Thus, Nishi discloses an exposure apparatus comprising substantially all basic features of the instant claims except for a mask transport system which is arranged in a divided space with the mask stage and is purged with inert gas. However, this structure is well known per se. For example, Miyaji et al discloses an exposure apparatus having a mask transport system juxtaposed to the mask stage and the mask transport system is purge with an inert gas (see fig.5 and col.3, lines 28-31). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Nishi and Miyaji to obtain the invention as specified in the claims 58-62. The purpose of doing so would have been at least to remove the static electricity

Art Unit: 2851

appearing on the mask and to avoid damaging to the mask as suggested by Miyaji (see col.3, lines 1-3) and to avoid the decrease in transmittance of light or generation of ozone (see col.1, lines 65-67) whereby the throughput of the exposure apparatus is greatly improved.

4. Claims 41-48, 55-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al (U.S.Pat. 6,414,743) in view of Sato (US 2002/0126269A1).

With respect to claims 41-48, 55-69 Nishi discloses an exposure apparatus comprising substantially all of the basic features of the instant claims as discussed above. Nishi lacks to show a substrate transport system and a mask transport system are arranged which are arranged in divided spaces and purged with inert gas. Sato teaches an exposure apparatus having mask transport system, mask stage, as well as substrate stage and substrate transport system which are arranged in a divided space and which is purged with inert gas (see fig.1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Nishi and Sato to obtain the invention as specified in the above claims. It would have been obvious to provide a mask transport system and substrate transport system in a divided space and purged with inert gas as suggested by Sato into the exposure apparatus of Nishi for the known purpose of removing the static electricity appearing on the mask and the substrate and preventing damages to the mask and the substrate and increasing in transmittance of light or generation of ozone whereby the throughput of the exposure apparatus is greatly improved. In view of the intervening effective filing date of Sato, applicants' attention is directed to the procedure set forth in MPEP section 201.15.

Art Unit: 2851

5. Claims 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al (U.S.Pat. 6,414,743) in view of Sato (US 2002/0126269A1) and further in view of Umatate et al (U.S.Pat. 5,243,377).

As to claims 51-54, Nishi as modified by Sato discloses an exposure apparatus comprising substantially all of the limitations of the instant claims as discussed except for the exposure apparatus being communicated via a computer network such as a LAN or Internet. However, this in itself does not provide any inventive steps. For example, Umatate et al discloses a plural exposure apparatus and a host management system (H-COM), a network interface, a computer and the information relating to each of the exposure apparatuses can be communicated by a computer network (see fig.1 of Umatate et al). In view of such teachings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Nishi as modified by Sato with Umatate to obtain the invention as specified in the above claims. It would have been obvious to a skilled artisan to utilize a computer network as taught by Umatate for the exposure apparatus of Nishi as modified by Sato for remotely and automatically managing, analyzing, troubleshooting and maintenance the exposure apparatus.

Prior Art Made of Record

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Otsuki et al teaches an wafer processing device having wafer transport system which is purged with inert gas.

Art Unit: 2851

Response to Arguments

Applicant's amendments filed April 24, 2003 to the claims have been entered. Claims 1-40 have been cancelled. Newly added claims 41-69 have been entered. It is noted that newly submitted claims 41-69 are directed to an invention that is distinct from the invention originally claimed. Applicant's arguments with respect to the prior art have been carefully reviewed but have been traversed in view of new grounds of rejection set forth above.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

Application/Control Number: 09/986,958

Page 7

Art Unit: 2851

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

hvn
July 1, 2003


HENRY HUNG NGUYEN
PRIMARY EXAMINER